



1602

AMPLIFIER TRIODE

*For applications critical as to microphonics.
Previously designated as RCA-10 Special.*

Filament	Thoriated Tungsten	
Voltage	7.5	a-c or d-c volts
Current	1.25	amp.
Amplification Factor	8	
Direct Interelectrode Capacitances (approx.):		
Grid to Plate	7	μf
Grid to Filament	4	μf
Plate to Filament	3	μf
Maximum Overall Length		5-5/8"
Maximum Diameter		2-3/16"
Bulb		S-17
Base		Medium 4-Pin Bayonet

MAXIMUM RATINGS and TYPICAL OPERATING CONDITIONS**A-F POWER AMPLIFIER & MODULATOR - Class A**

D-C Plate Voltage		425 max.	volts
Plate Dissipation		12 max.	watts
Typical Operation:			
Filament Voltage	7.5	7.5	7.5 a-c volts
D-C Plate Voltage	250	350	425 volts
D-C Grid Voltage	-23.5	-32	-40 volts
Peak A-F Grid Voltage	18.5	27	35 volts
D-C Plate Current	10	16	18 ma.
Plate Resistance	5000	5150	5000 ohms
Transconductance	1330	1550	1600 umhos
Load Resistance	13000	11000	10200 ohms
U.P.O. (5% second harmonic)	0.4	0.9	1.6 watts

A-F POWER AMPLIFIER & MODULATOR - Class B

D-C Plate Voltage		425 max.	volts
Max-Signal D-C Plate Current *		60 max.	ma.
Max-Signal Plate Input *		25 max.	watts
Plate Dissipation *		12 max.	watts
Typical Operation:			
<i>Unless otherwise specified, values are for 2 tubes</i>			
Filament Voltage	7.5	7.5	7.5 a-c volts
D-C Plate Voltage	250	350	425 volts
D-C Grid Voltage	-28	-40	-50 volts
Peak A-F Grid-to-Grid Volt.	220	240	260 volts
Zero-Sig. D-C Plate Cur.	8	8	8 ma.
Max-Sig. D-C Plate Cur.	110	110	110 ma.
Load Resistance (per tube)	1000	1500	2000 ohms
Effective Load Res. (plate to plate)	4000	6000	8000 ohms
Max-Signal Driving Power	2.1	2.3	2.5 approx. watts
Max-Signal Power Output	13	20	25 approx. watts

* Averaged over any audio frequency cycle of sine-wave form.
← indicates a change.

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RCA RADOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

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AMPLIFIER TRIODE

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R-F POWER AMPLIFIER - Class B Telephony

Carrier conditions per tube for use with a max. modulation fact. of 1.0

D-C Plate Voltage	450 max.	volts
D-C Plate Current	45 max.	ma.
Plate Input	18 max.	watts
Plate Dissipation	15 max.	watts

Typical Operation:

Filament Voltage	7.5	7.5	a-c volts
D-C Plate Voltage	350	450	volts
D-C Grid Voltage	-40	-53	volts
Peak R-F Grid Voltage	75	85	volts
D-C Plate Current	40	40	ma.
D-C Grid Current **	1	1	approx.ma.
Driving Power ° **	2	2.3	approx.watts
Power Output	3	4.5	approx.watts

° At crest of a-f cycle with modulation factor of 1.0.

PLATE-MODULATED R-F POWER AMPLIFIER - Class C Telephony

Carrier conditions per tube for use with a max. modulation fact. of 1.0

D-C Plate Voltage	350 max.	volts
D-C Grid Voltage	-200 max.	volts
D-C Plate Current	50 max.	ma.
D-C Grid Current	15 max.	ma.
Plate Input	17.5 max.	watts
Plate Dissipation	10 max.	watts

Typical Operation:

Filament Voltage	7.5	7.5	a-c volts
D-C Plate Voltage	250	350	volts
D-C Grid Voltage	-95	-135	volts
Peak R-F Grid Voltage	195	235	volts
D-C Plate Current	45	45	ma.
D-C Grid Current **	15	15	approx.ma.
Driving Power **	3	3.5	approx.watts
Power Output	5.5	8	approx.watts

R-F POWER AMPLIFIER & OSCILLATOR - Class C Telegraphy

Key-down conditions per tube without modulation #

D-C Plate Voltage	450 max.	volts
D-C Grid Voltage	-200 max.	volts
D-C Plate Current	60 max.	ma.
D-C Grid Current	15 max.	ma.
Plate Input	27 max.	watts
Plate Dissipation	15 max.	watts

Typical Operation:

Filament Voltage	7.5	7.5	a-c volts
D-C Plate Voltage	350	450	volts
D-C Grid Voltage	-90	-115	volts
Peak R-F Grid Voltage	190	215	volts

**, #: See next page.

← indicates a change.

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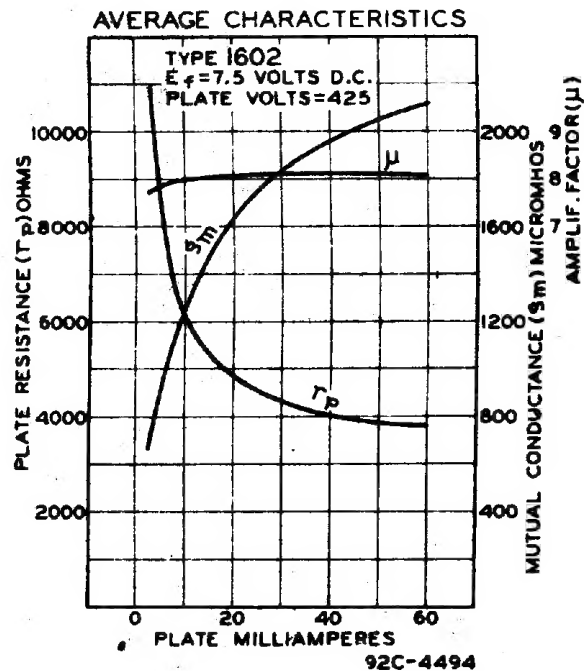
D-C Plate Current	55	55	ma.
D-C Grid Current **	15	15	ma.
Driving Power **	3	3.3	approx.watts
Power Output	9	13	approx.watts

* Modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

** Subject to wide variations as explained on sheet TRANS. TUBE RATINGS.

For use of the 1602 at the higher frequencies, refer to sheet TRANS. TUBE RATINGS vs Frequency.

OUTLINE DIMENSIONS, TUBE SYMBOL, and
SOCKET CONNECTIONS for the 1602 are the same
as for the 841.



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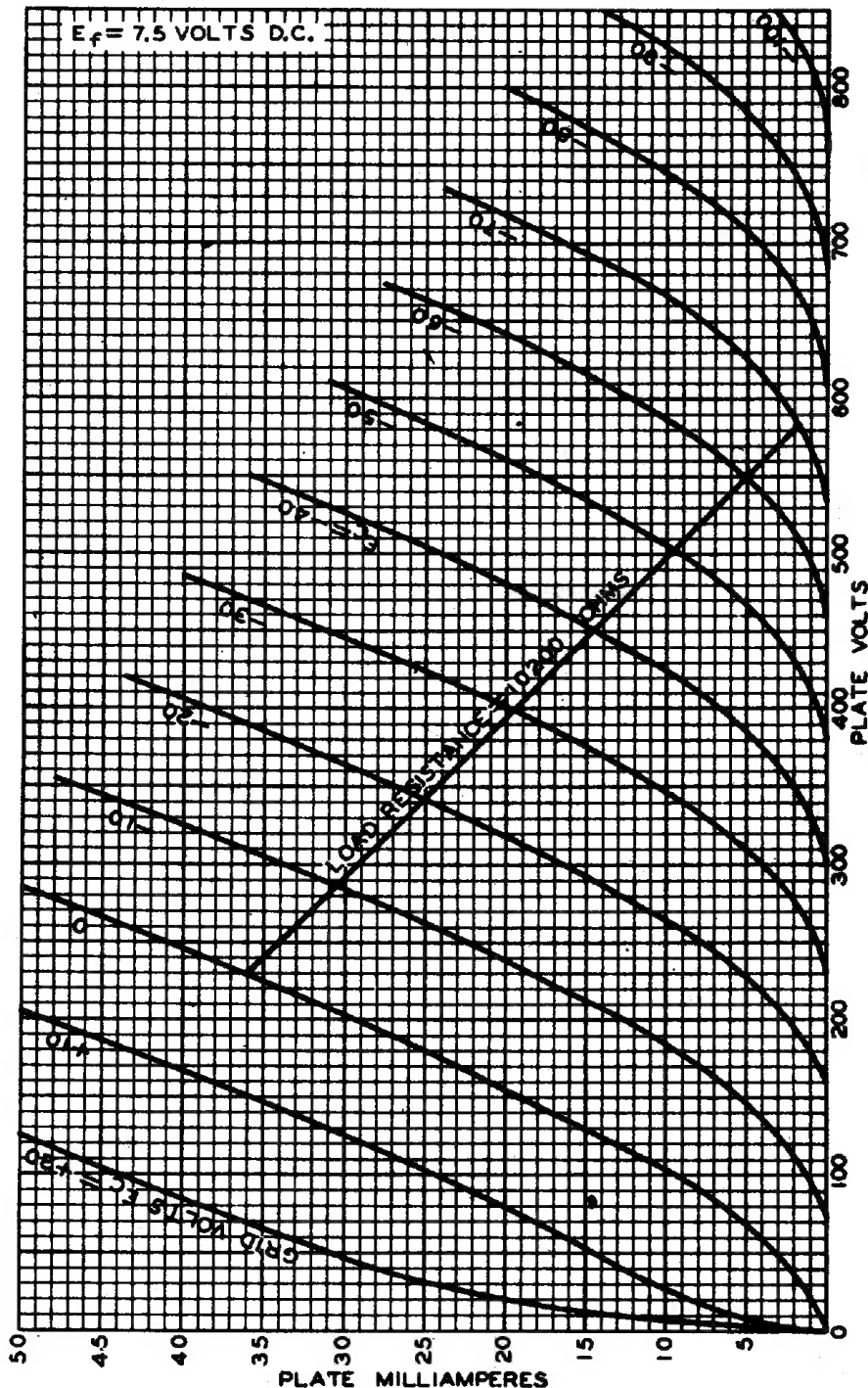
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AVERAGE PLATE CHARACTERISTICS



OCT. 10, 1935

RCA RADOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

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